BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

Fig. 1

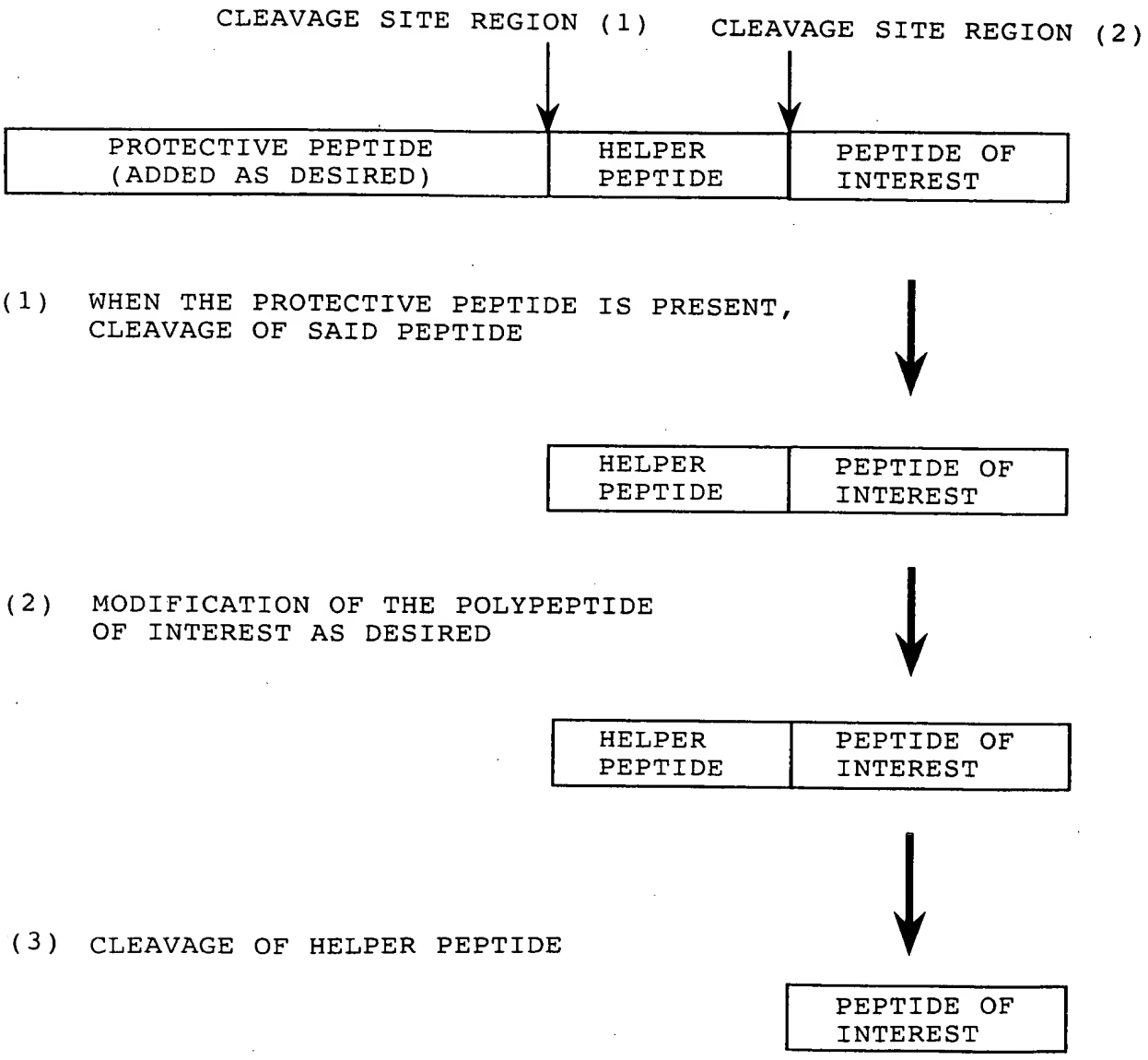


Fig.2

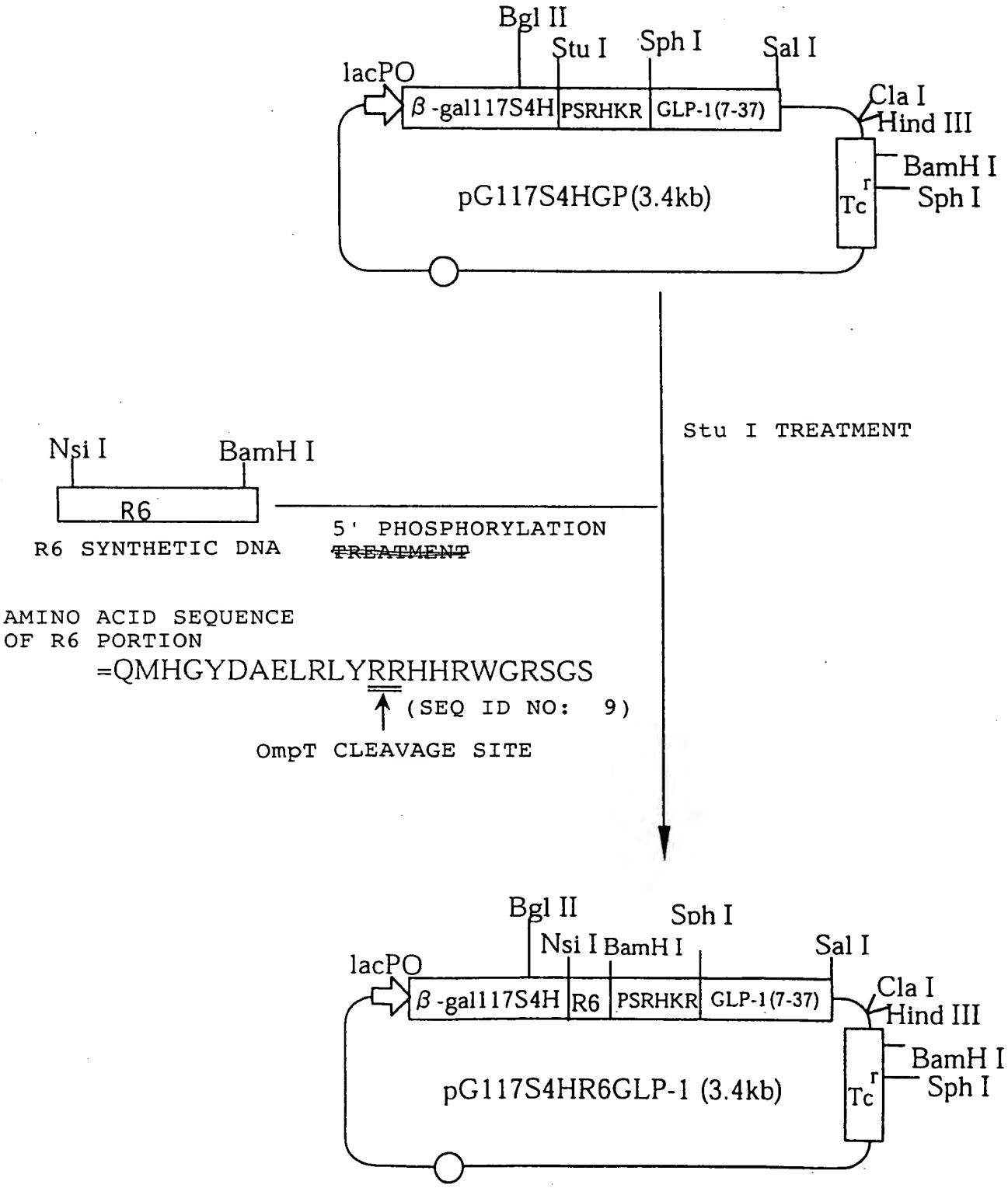


Fig. 3

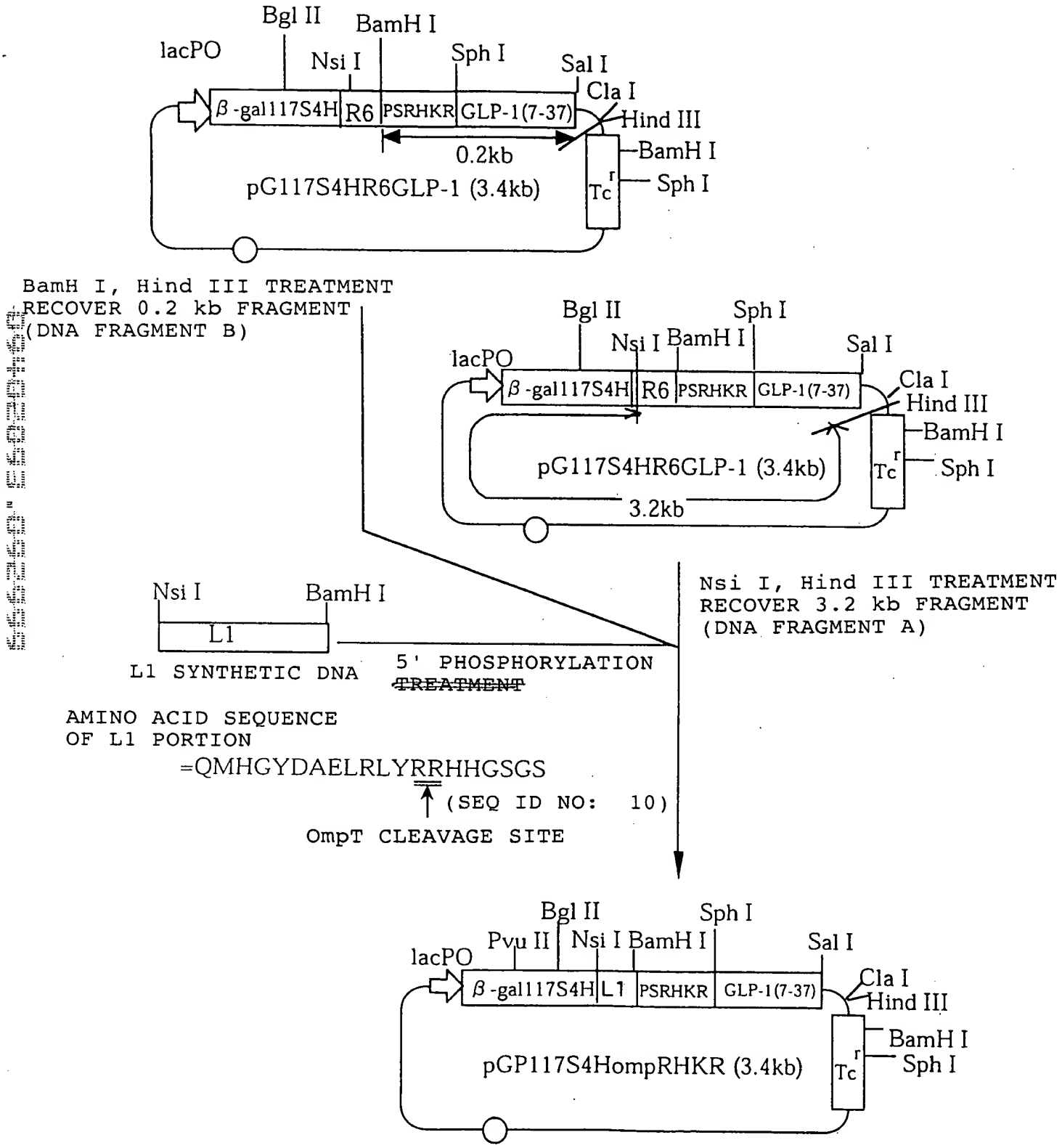


Fig. 4

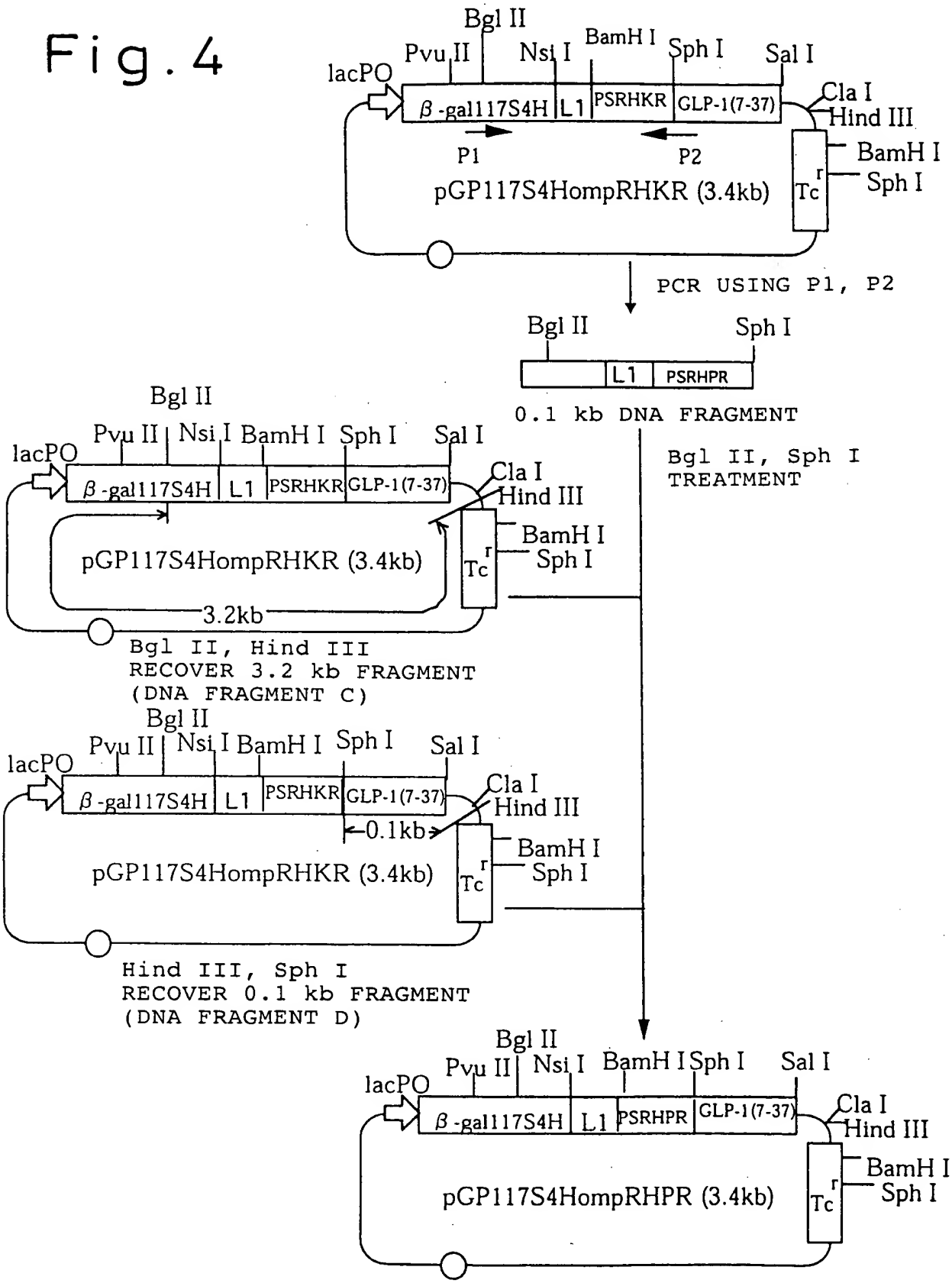


Fig.5

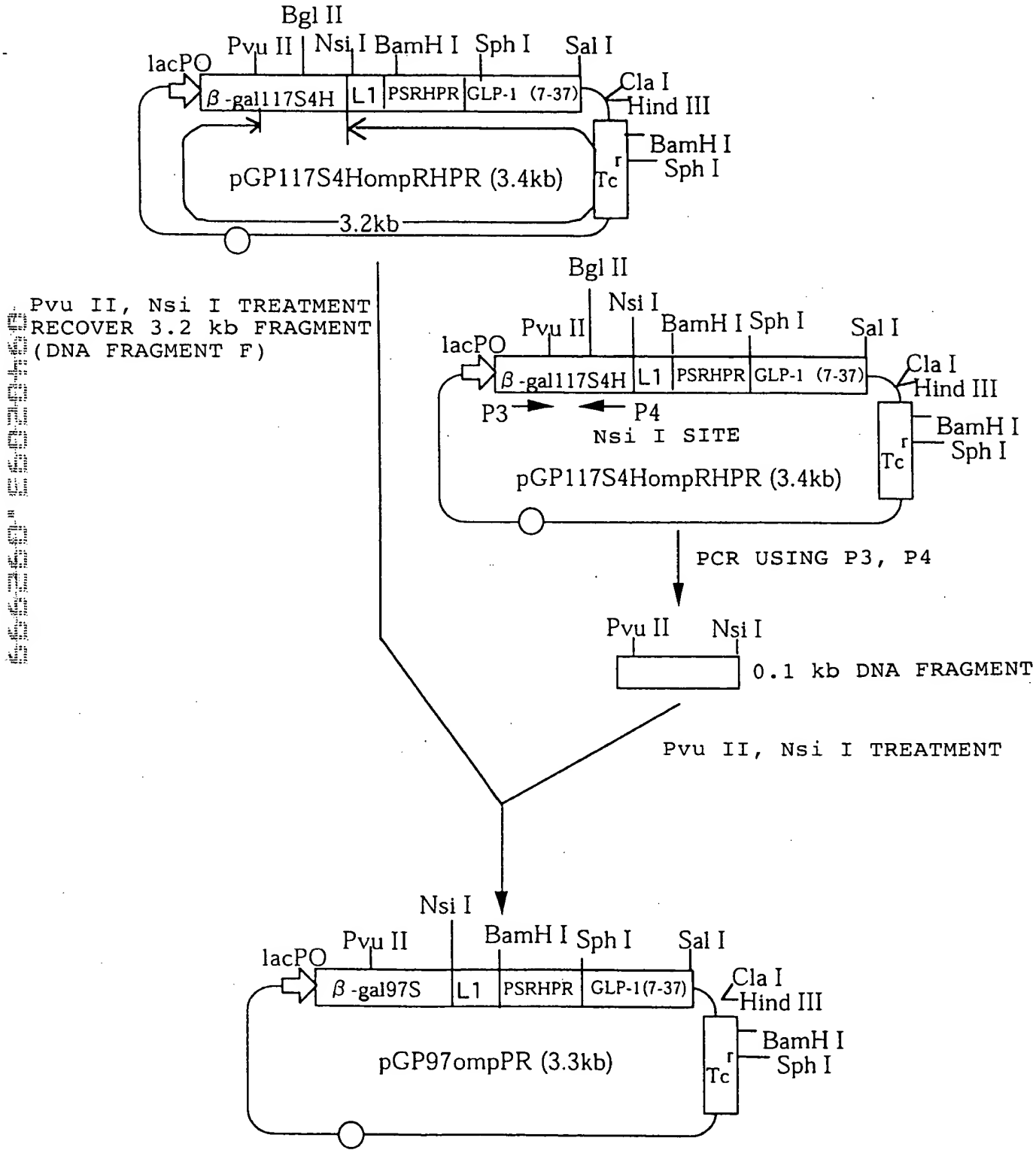

Bgl II
Pvu II
Nsi I
BamH I
Sph I
Sal I
lacPO
β-gal117S4H
L1
PSRHPR
GLP-1 (7-37)
Cla I
Hind III
BamH I
Sph I
Tc r
pGP117S4HompRHPR (3.4kb)
3.2kb
Pvu II, Nsi I TREATMENT
RECOVER 3.2 kb FRAGMENT
(DNA FRAGMENT F)
P3
P4
Nsi I SITE
PCR USING P3, P4
0.1 kb DNA FRAGMENT
Pvu II, Nsi I TREATMENT
β-gal97S
GLP-1(7-37)
pGP97ompPR (3.3kb)

Fig.6

R6 SEQUENCE 5'CAG ATG CAT GGT TAT GAC GCG GAG CTC CGG CTG TAT CGC CGT CAT CAC CGG
3'GTC TAC GTA CCA ATA CTG CGC CTC GAG GCC GAC ATA GCG GCA GTA GTG GCC

CORRESPONDING AMINO ACID SEQUENCE Gln Met His Gly Tyr Asp Ala Glu Leu Arg Leu Tyr Arg Arg His His Arg (SEQ ID NO: 11) (SEQ ID NO: 12)

TGG GGT CGT TCC GGA TCC 3'
ACC CCA GCA AGG CCT AGG 5'
Trp Gly Arg Ser Gly Ser

L1 SEQUENCE 5' T GGT TAT GAC GCG GAG CTC CGC CTG TAT CGC CGT CAT CAC GGT TCC G 3' (SEQ ID NO: 13)
3' ACGTA CCA ATA CTG CGC CTC GAG GCG GAC ATA GCG GCA GTA GTG CCA AGG CCT AG 5' (SEQ ID NO: 14)

P1 PRIMER SEQUENCE 5'GAC TCA GAT CTT CCT GAG GCC GAT 3' (SEQ ID NO: 15)

P2 PRIMER SEQUENCE 5'AAA GGT ACC TTC CGC ATG CCG CGG ATG TCG AGA AGG 3' (SEQ ID NO: 16)

P3 PRIMER SEQUENCE 5'AGG CCA GGA ACC GTA AAA AG 3' (SEQ ID NO: 17)

P4 PRIMER SEQUENCE 5'AAA ATG CAT CGC ATC GTA ACC GTG CAT CT 3' (SEQ ID NO: 18)

Fig. 7

Met Thr Met Ile Thr Asp Ser Leu Ala Val Val Leu Gln Arg Lys 15

Asp Trp Asp Asn Pro Gly Val Thr Gln Leu Asn Arg Leu Ala Ala 30

His Pro Pro Phe Ala Ser Trp Arg Asn Ser Asp Asp Ala Arg Thr 45

Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly Glu Trp Arg 60

Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Ala Ser Leu Leu 75

Glu Ser Asp Leu Pro Glu Ala Asp Thr Val Val Val Pro Ser Asn 90

Trp Gln Met His Gly Tyr Asp Ala Met His Gly Tyr Asp Ala Glu 105

Leu Arg Leu Tyr Arg Arg His His Gly Ser Gly Ser Pro Ser Arg 120

His Pro Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser 135

Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val 150

Lys Gly Arg Gly
154

(SEQ ID NO: 20)

AMINO ACID SEQUENCE OF FUSION PROTEIN (GP97ompPR)
ENCODED BY pGP97ompPR

Fig. 8

lac PO

CCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCG

1

GATAACAATTTCACACAGGAAACAGCT ATG ACC ATG ATT ACG GAT TCA CTG GCC
Met Thr Met Ile Thr Asp Ser Leu Ala

GTC GTT TTA CAA CGT AAA GAC TGG GAT AAC CCT GGC GTT ACC CAA CTT
Val Val Leu Gln Arg Lys Asp Trp Asp Asn Pro Gly Val Thr Gln Leu

AAT CGC CTT GCA GCA CAT CCC CCT TTC GCC AGC TGG CGT AAT AGC GAC
Asn Arg Leu Ala Ala His Pro Pro Phe Ala Ser Trp Arg Asn Ser Asp

GAC GCC CGC ACC GAT CGC CCT TCC CAA CAG TTG CGC AGC CTG AAT GGC
Asp Ala Arg Thr Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly

GAA TGG CGC TTT GCC TGG TTT CCG GCA CCA GAA GCG GTG CCG GCA AGC
Glu Trp Arg Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Ala Ser

TTG CTG GAG TCA GAT CTT CCT GAG GCC GAT ACT GTC GTC GTC CCC TCA
Leu Leu Glu Ser Asp Leu Pro Glu Ala Asp Thr Val Val Val Pro Ser

AAC TGG CAG ATG CAC GGT TAC GAT GCG ATG CAT GGT TAT GAC GCG GAG
Asn Trp Gln Met His Gly Tyr Asp Ala Met His Gly Tyr Asp Ala Glu

CTC CGC CTG TAT CGC CGT CAT CAC GGT TCC GGA TCC CCT TCT CGA CAT
Leu Arg Leu Tyr Arg Arg His His Gly Ser Gly Ser Pro Ser Arg His

CCG CGG CAT GCG GAA GGT ACC TTT ACC AGC GAT GTG AGC TCG TAT CTG
Pro Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu

GAA GGT CAG GCG GCA AAA GAA TTC ATC GCG TGG CTG GTG AAA GGC CGT
Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg

462

GGT TAA GTCGAC AGCCCGCCTAATGAGCGGGCTTTTTTTTCTCGGAATTAATTCTCATGT
Gly ***
STOP CODON

TTGACAGCTTATCATCGATAAGCTTTA

(SEQ ID NO: 19)

Fig.9

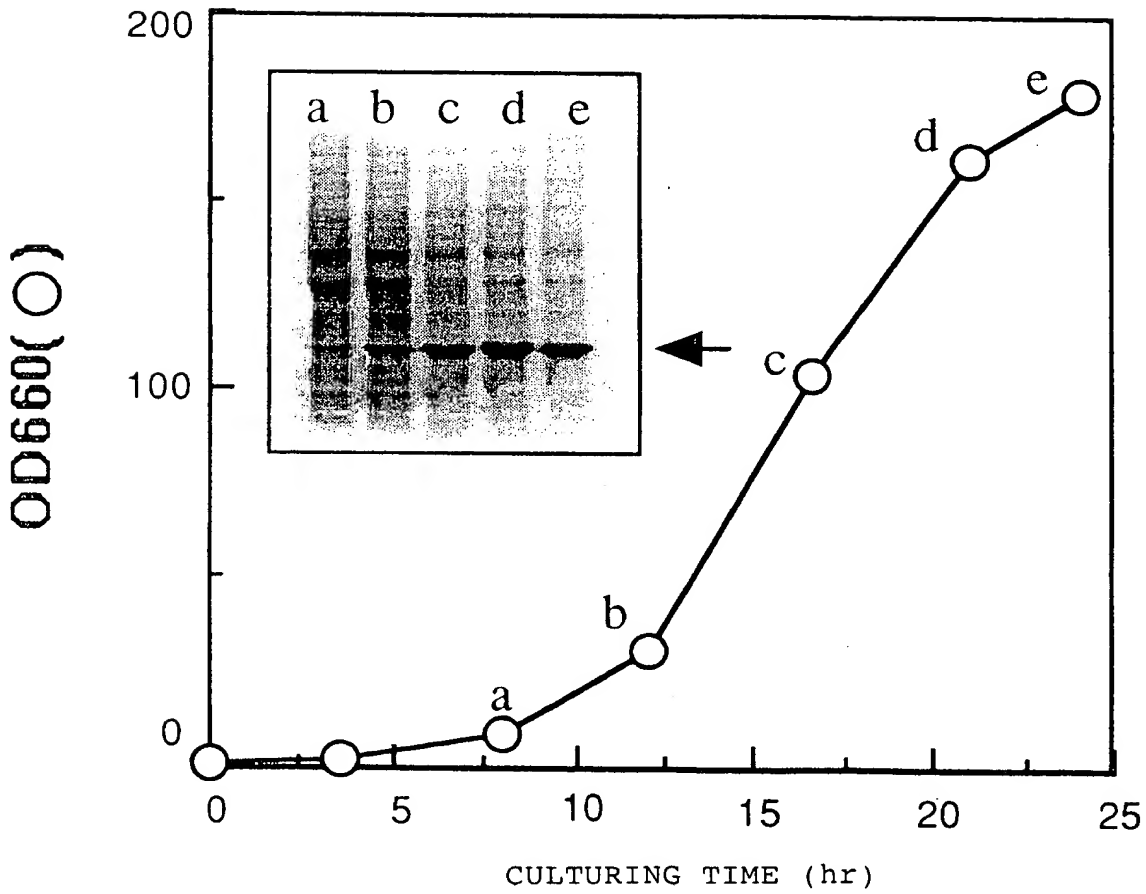


Fig.10

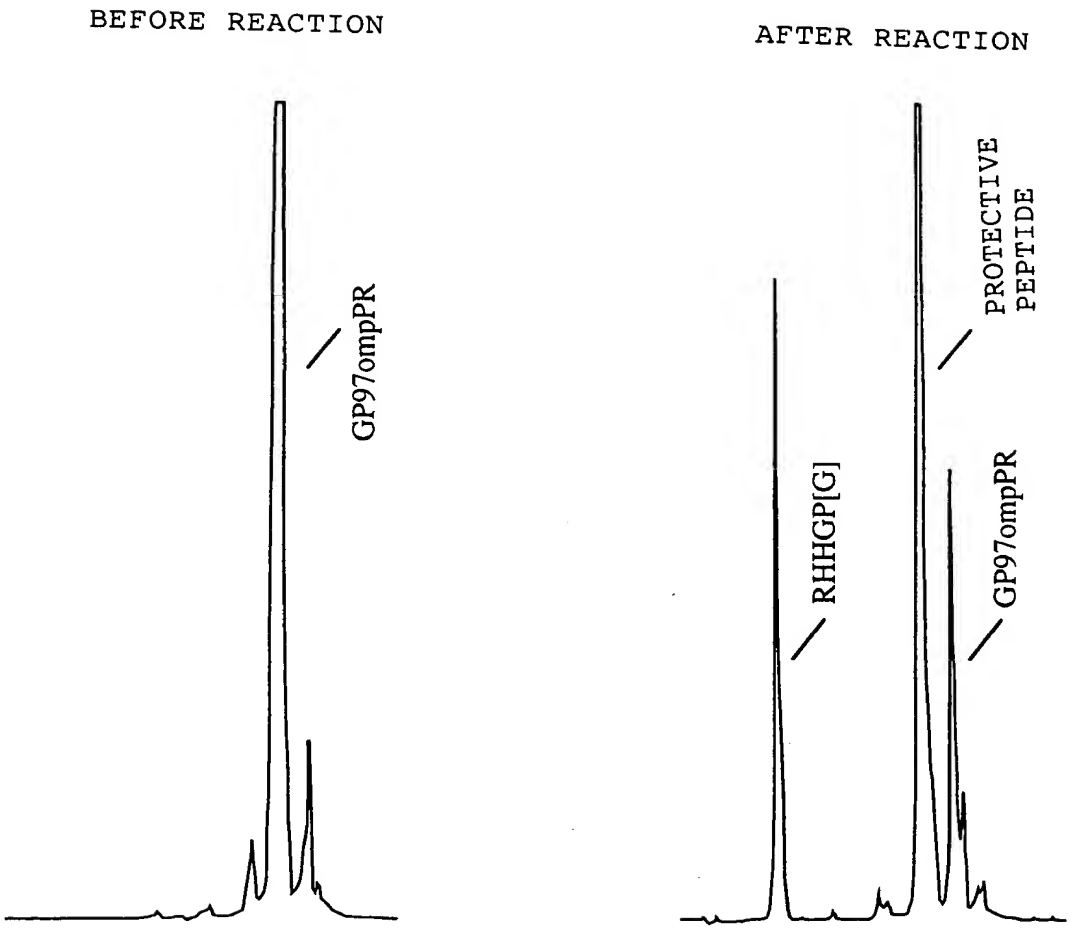


Fig.11

```
                                                                  15
Met Thr Met Ile Thr Asp Ser Leu Ala Val Val Leu Gln Arg Lys
                                                                  30
Asp Trp Asp Asn Pro Gly Val Thr Gln Leu Asn Arg Leu Ala Ala
                                                                  45
His Pro Pro Phe Ala Ser Trp Arg Asn Ser Asp Asp Ala Arg Thr
                                                                  60
Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly Glu Trp Arg
                                                                  75
Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Ala Ser Leu Leu
                                                                  90
Glu Ser Asp Leu Pro Glu Ala Asp Thr Val Val Val Pro Ser Asn
                                                                 105
Trp Gln Met His Gly Tyr Asp Ala Pro Ile Tyr Thr Asn Val Thr
                                                                 120
Tyr Pro Ile Thr Val Asn Pro Pro Phe Val Pro Thr Glu Pro His
                                                                 135
His His His His Gly Gly Arg Gln Met His Gly Tyr Asp Ala Glu
                                                                 150
Leu Arg Leu Tyr Arg Arg His His Arg Trp Gly Arg Ser Gly Ser
                                                                 165
Pro Ser Arg His Lys Arg His Ala Glu Gly Thr Phe Thr Ser Asp
                                                                 180
Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala

Trp Leu Val Lys Gly Arg Gly
```

(SEQ ID NO: 21)

AMINO ACID SEQUENCE OF FUSION PROTEIN
ENCODED BY pG117S4HR6GLP-1

Fig. 12

```
                                                                  15
Met Thr Met Ile Thr Asp Ser Leu Ala Val Val Leu Gln Arg Lys
                                                                  30
Asp Trp Asp Asn Pro Gly Val Thr Gln Leu Asn Arg Leu Ala Ala
                                                                  45
His Pro Pro Phe Ala Ser Trp Arg Asn Ser Asp Asp Ala Arg Thr
                                                                  60
Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly Glu Trp Arg
                                                                  75
Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Ala Ser Leu Leu
                                                                  90
Glu Ser Asp Leu Pro Glu Ala Asp Thr Val Val Val Pro Ser Asn
                                                                 105
Trp Gln Met His Gly Tyr Asp Ala Pro Ile Tyr Thr Asn Val Thr
                                                                 120
Tyr Pro Ile Thr Val Asn Pro Pro Phe Val Pro Thr Glu Pro His
                                                                 135
His His His His Gly Gly Arg Gln Met His Gly Tyr Asp Ala Glu
                                                                 150
Leu Arg Leu Tyr Arg Arg His His Gly Ser Gly Ser Pro Ser Arg
                                                                 165
His Lys Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser
                                                                 180
Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val

Lys Gly Arg Gly
```

(SEQ ID NO: 22)

AMINO ACID SEQUENCE OF FUSION PROTEIN
ENCODED BY pGP117S4HompRHKR

Fig.13

15
Met Thr Met Ile Thr Asp Ser Leu Ala Val Val Leu Gln Arg Lys
30
Asp Trp Asp Asn Pro Gly Val Thr Gln Leu Asn Arg Leu Ala Ala
45
His Pro Pro Phe Ala Ser Trp Arg Asn Ser Asp Asp Ala Arg Thr
60
Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly Glu Trp Arg
75
Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Ala Ser Leu Leu
90
Glu Ser Asp Leu Pro Glu Ala Asp Thr Val Val Val Pro Ser Asn
105
Trp Gln Met His Gly Tyr Asp Ala Pro Ile Tyr Thr Asn Val Thr
120
Tyr Pro Ile Thr Val Asn Pro Pro Phe Val Pro Thr Glu Pro His
135
His His His His Gly Gly Arg Gln Met His Gly Tyr Asp Ala Glu
150
Leu Arg Leu Tyr Arg Arg His His Gly Ser Gly Ser Pro Ser Arg
165
His Pro Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser
180
Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val

Lys Gly Arg Gly

(SEQ ID NO: 23)

AMINO ACID SEQUENCE OF FUSION PROTEIN
ENCODED BY pGP117S4HompRHPR

Fig.14

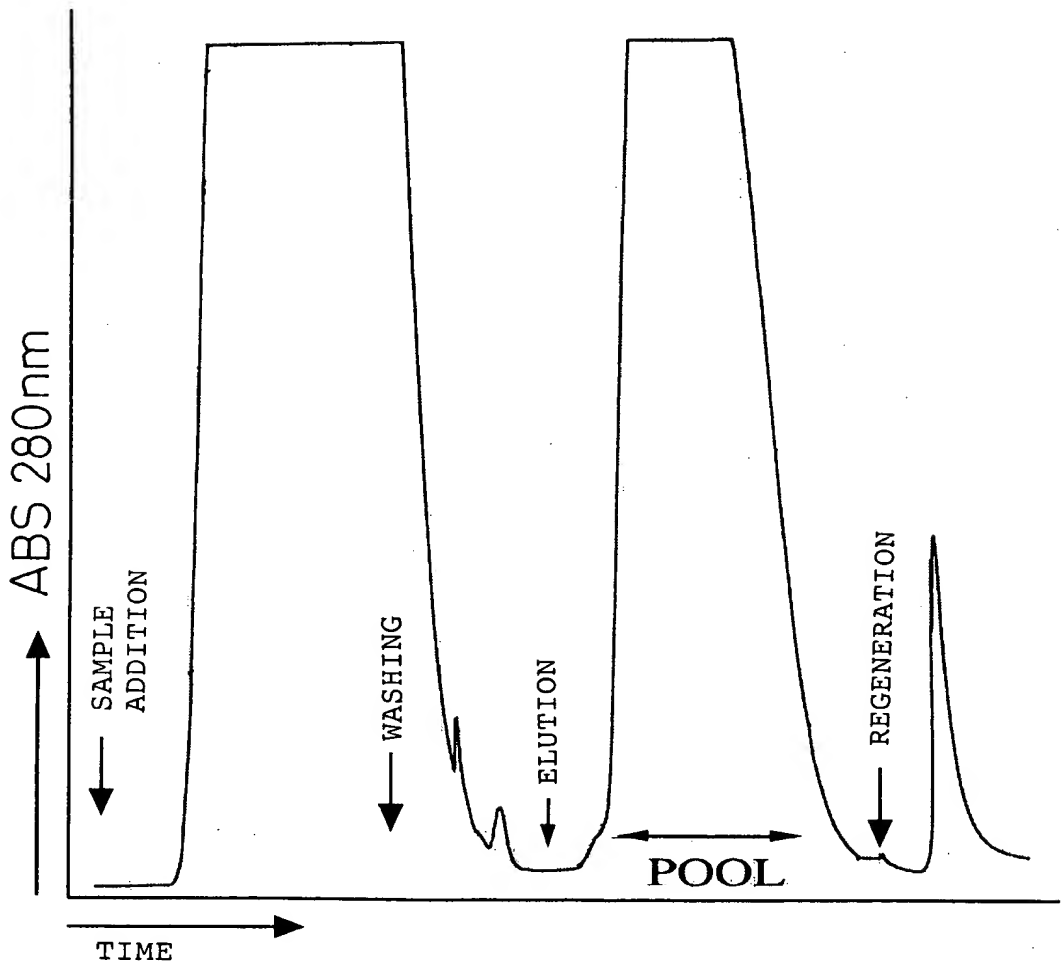


Fig.15

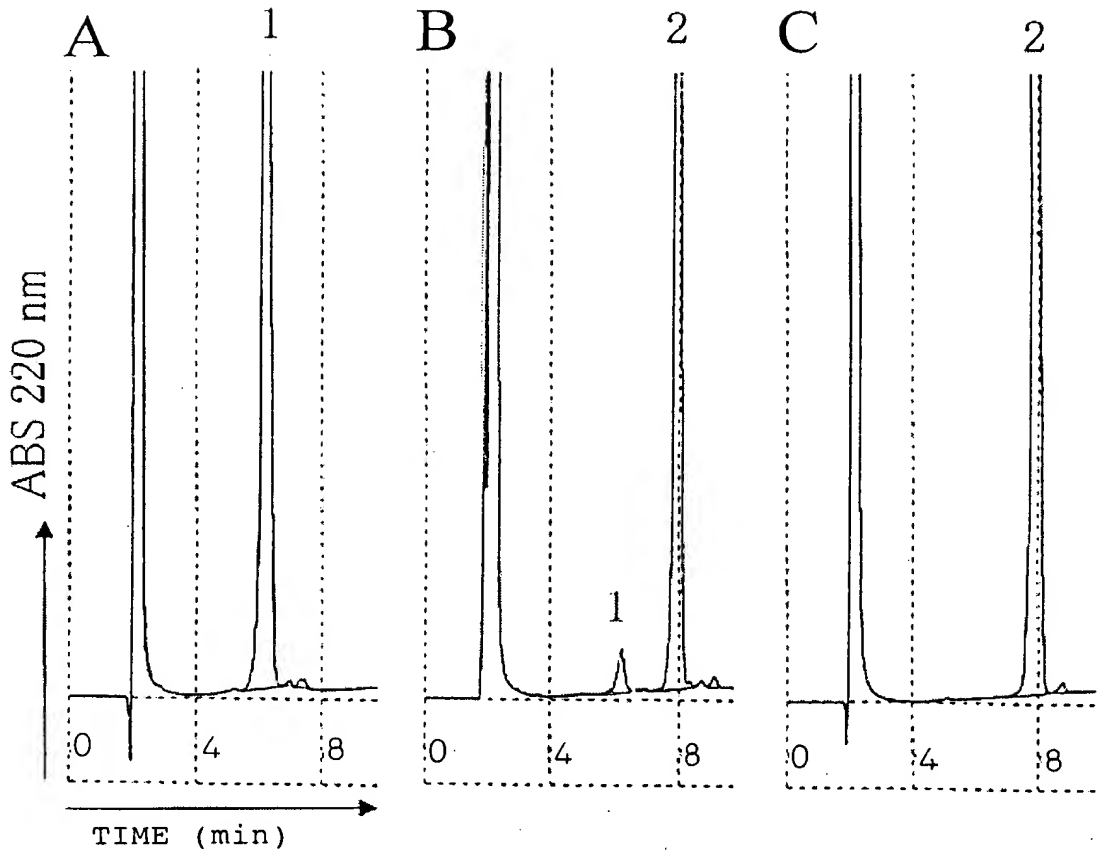


Fig.16

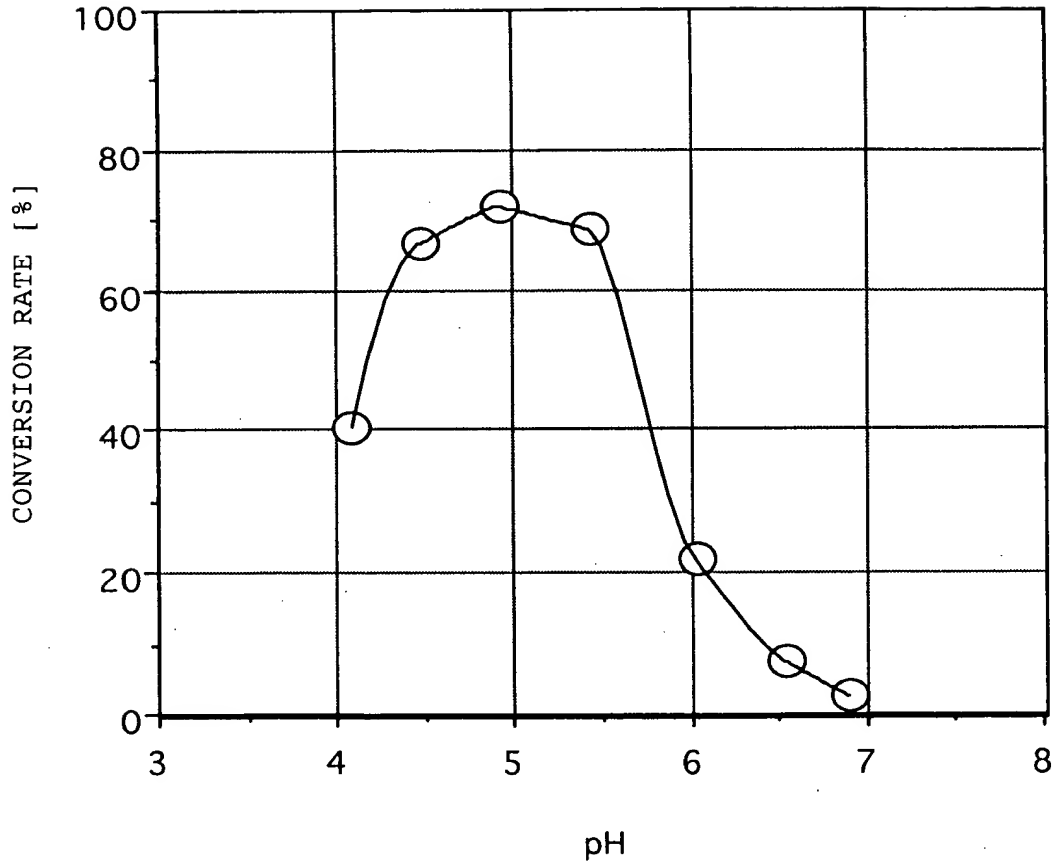


Fig.17

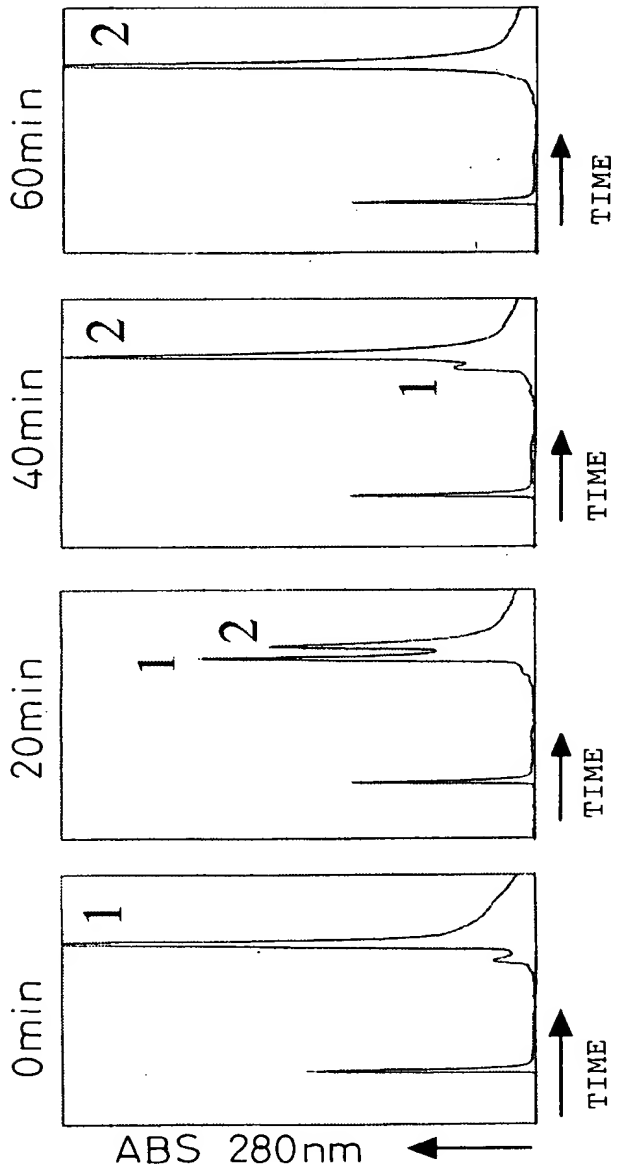


Fig.18

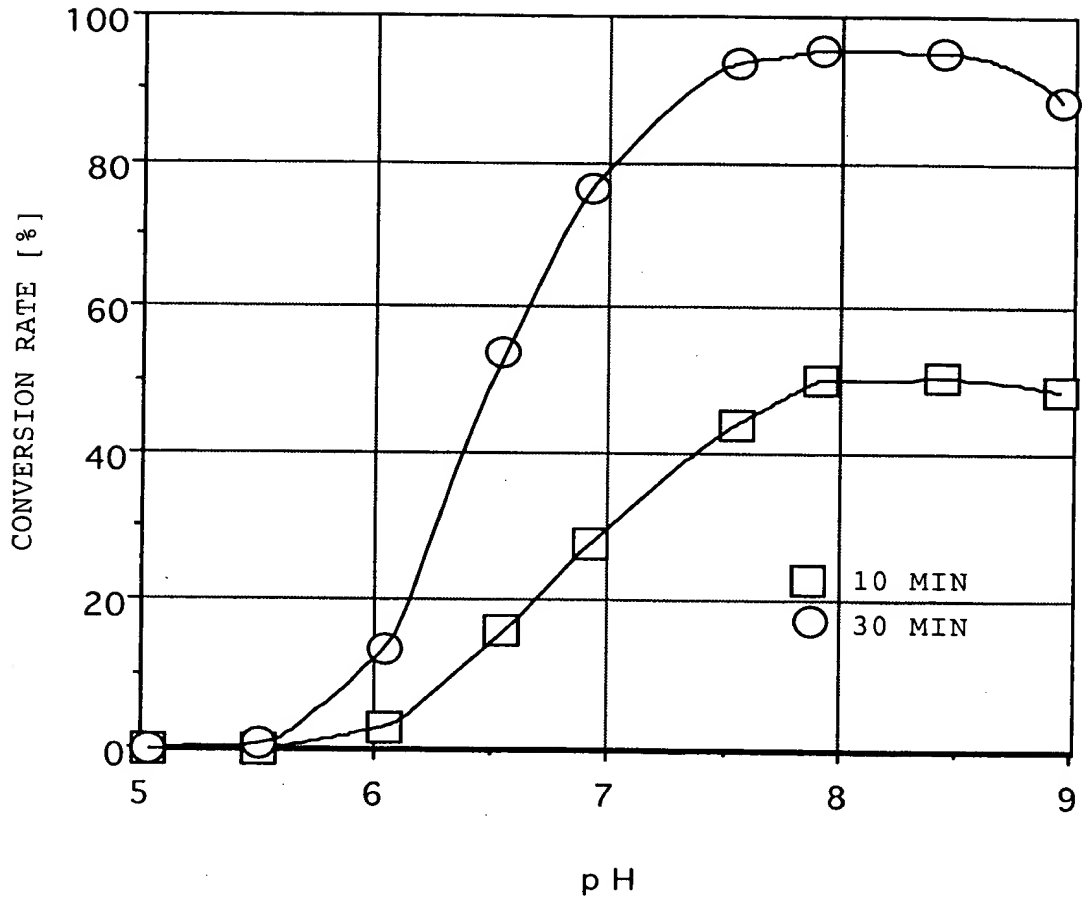


Fig.19

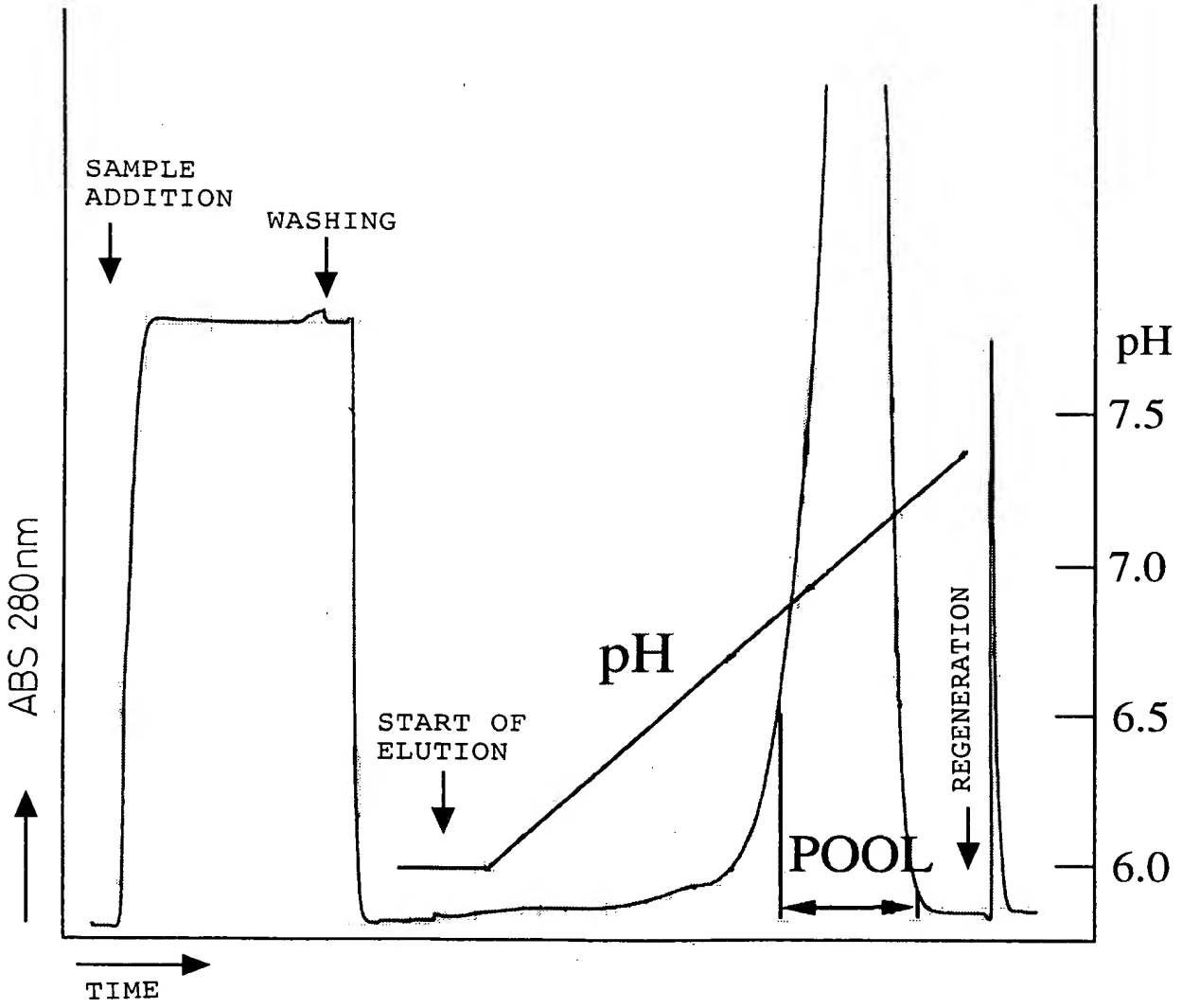

SAMPLE ADDITION
WASHING
START OF ELUTION
pH
POOL
REGENERATION
ABS 280nm
TIME
pH
7.5
7.0
6.5
6.0

Fig.20

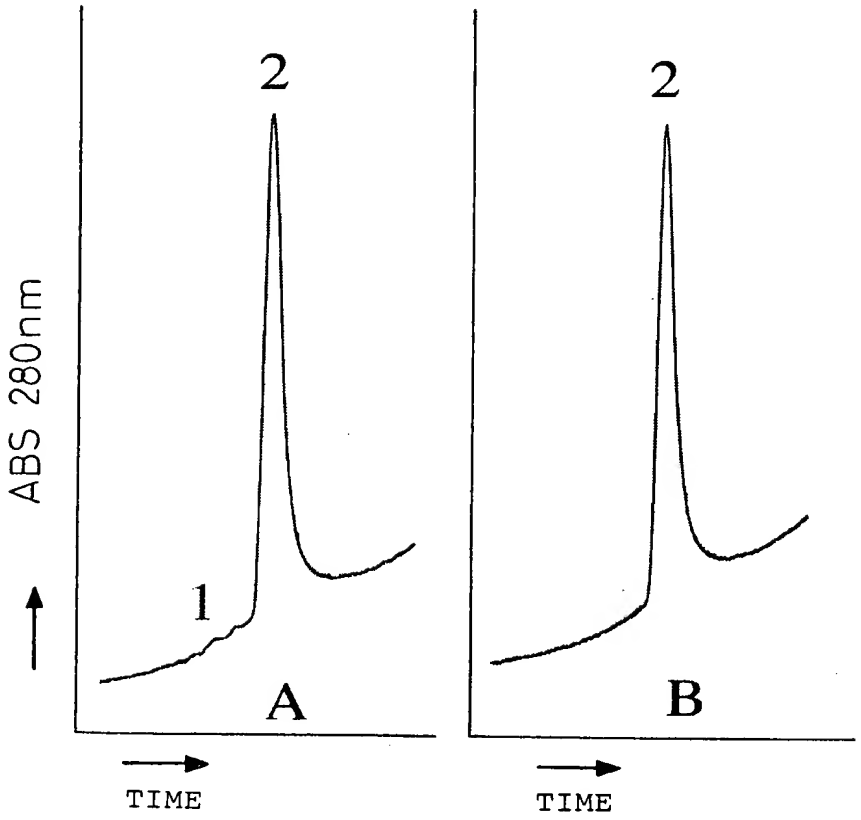


Fig.21

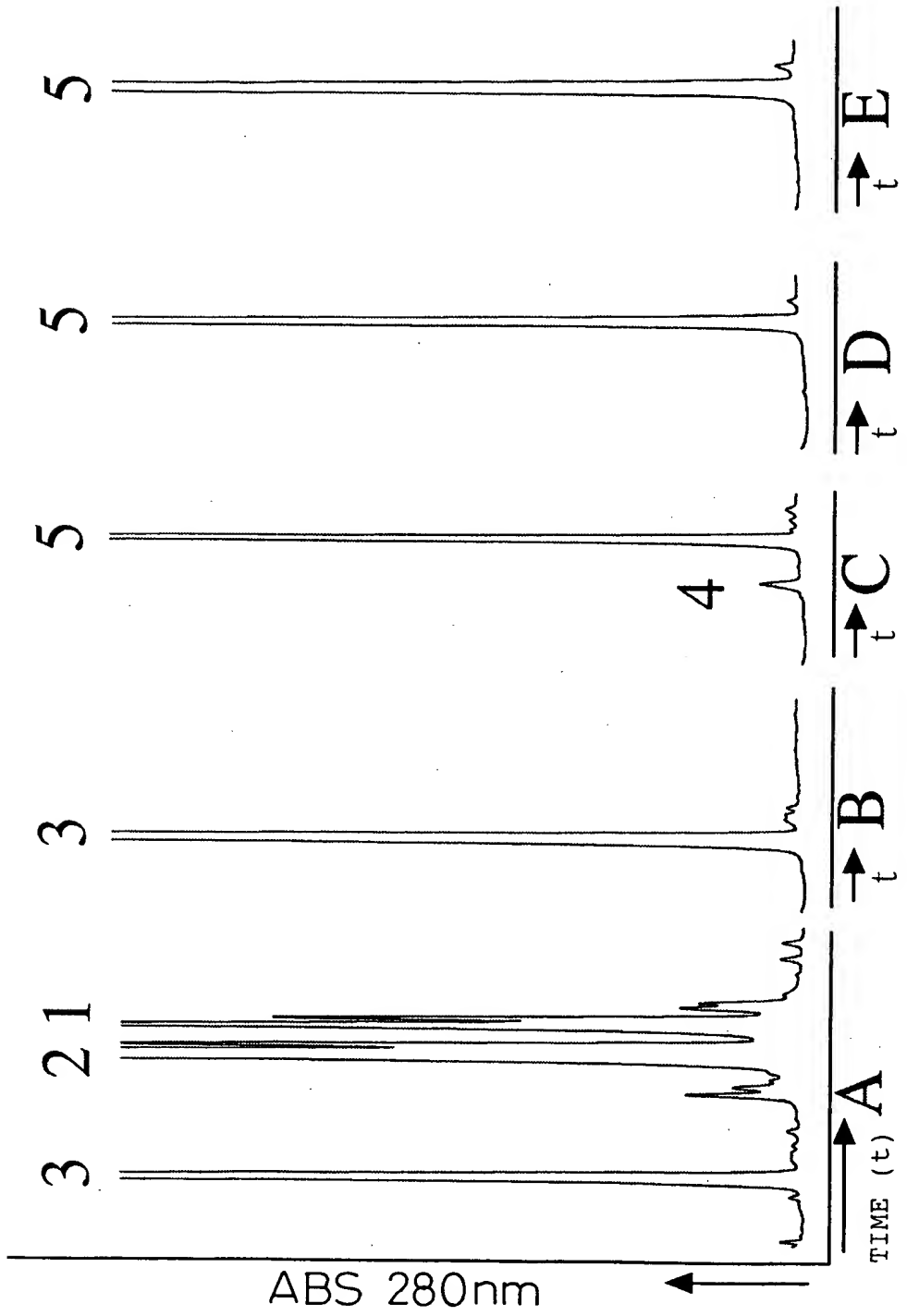


Fig.22

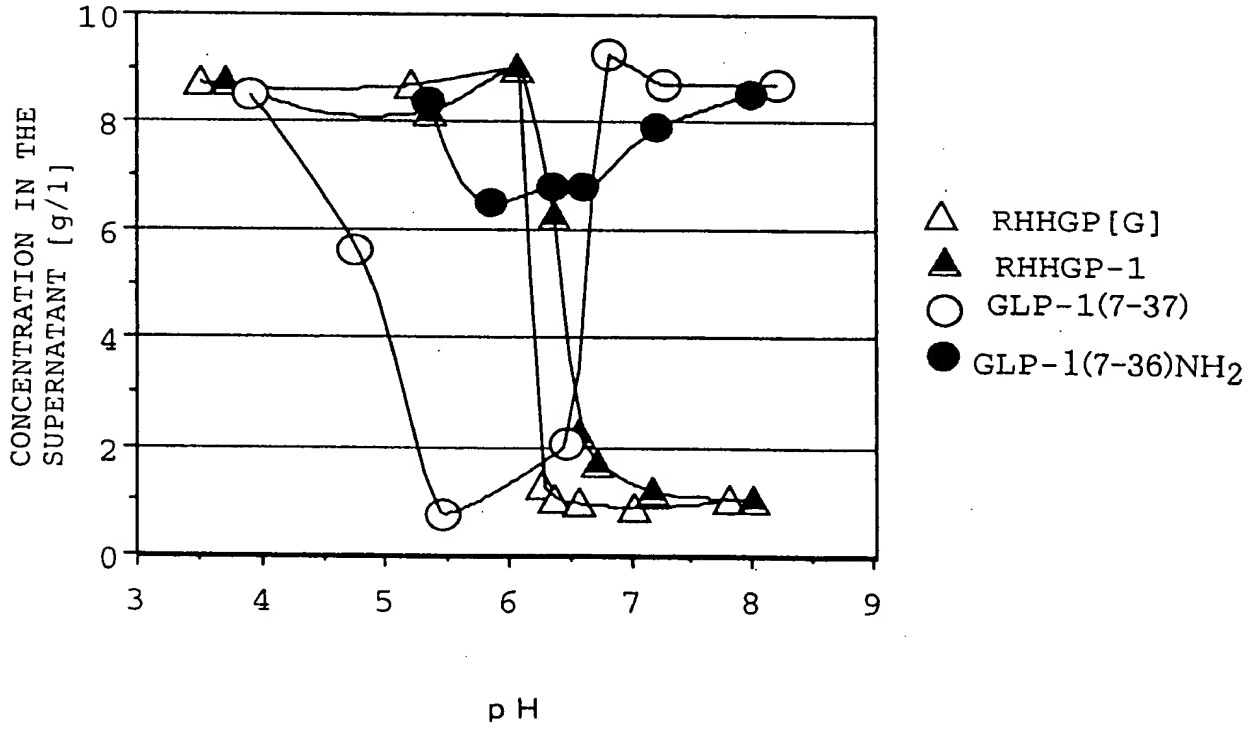
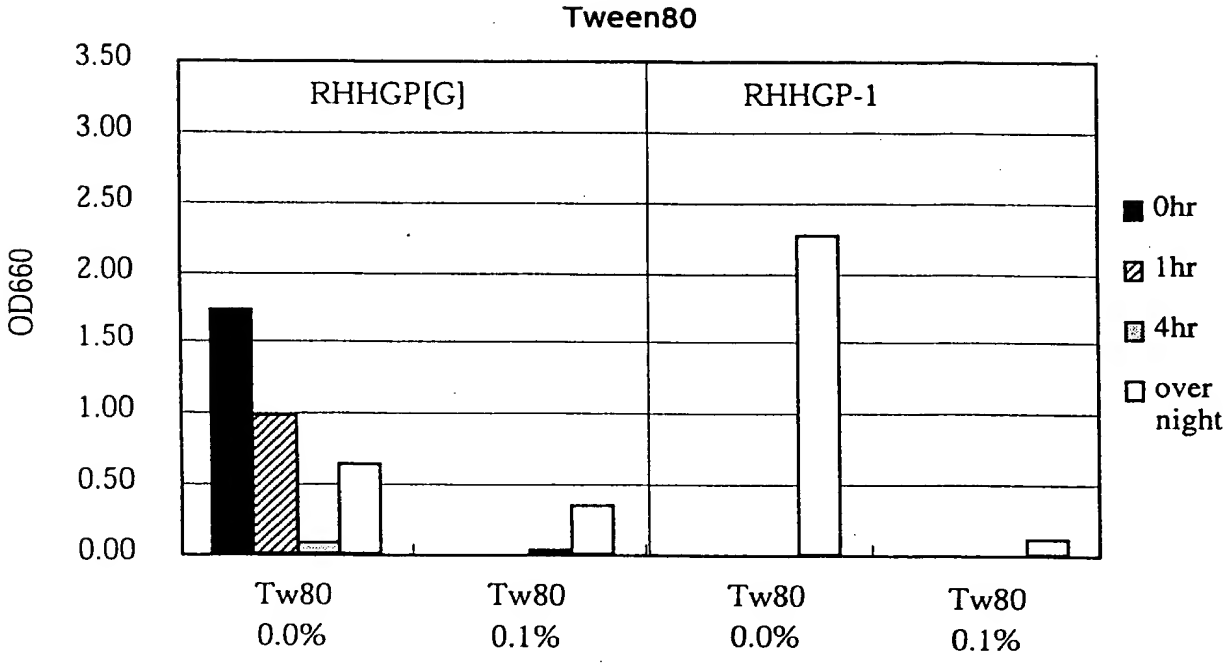


Fig.23

A


Tween80
RHHGP[G]
RHHGP-1
OD660
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0hr
1hr
4hr
over night
Tw80 0.0%
Tw80 0.1%
Tw80 0.0%
Tw80 0.1%

B

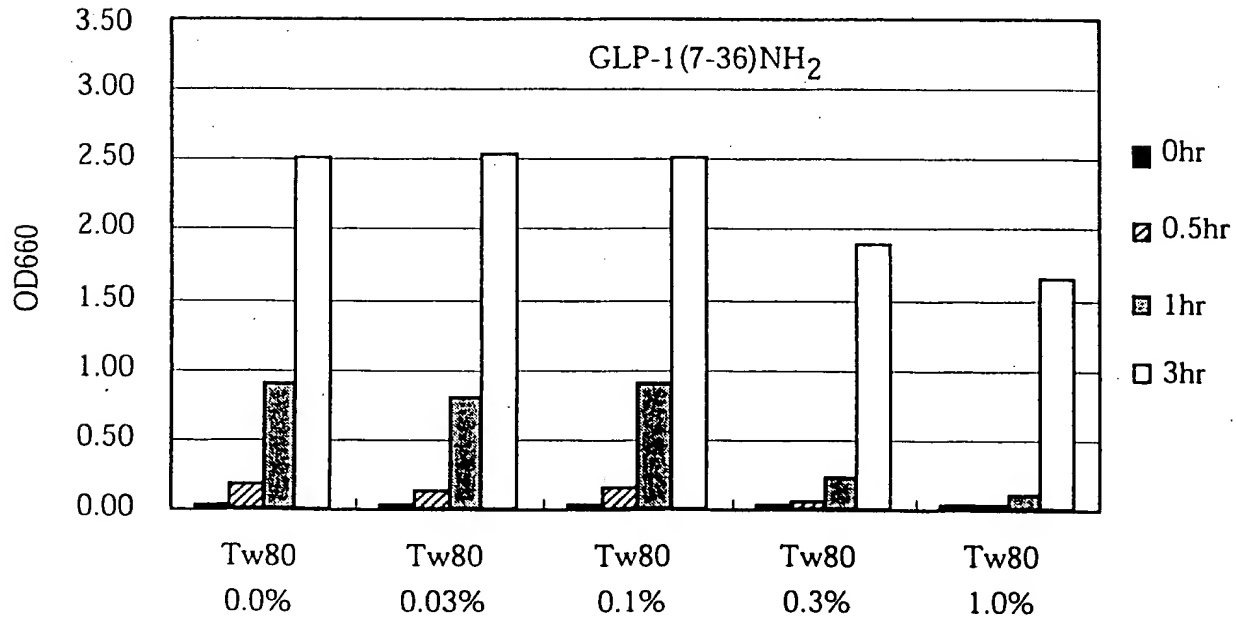
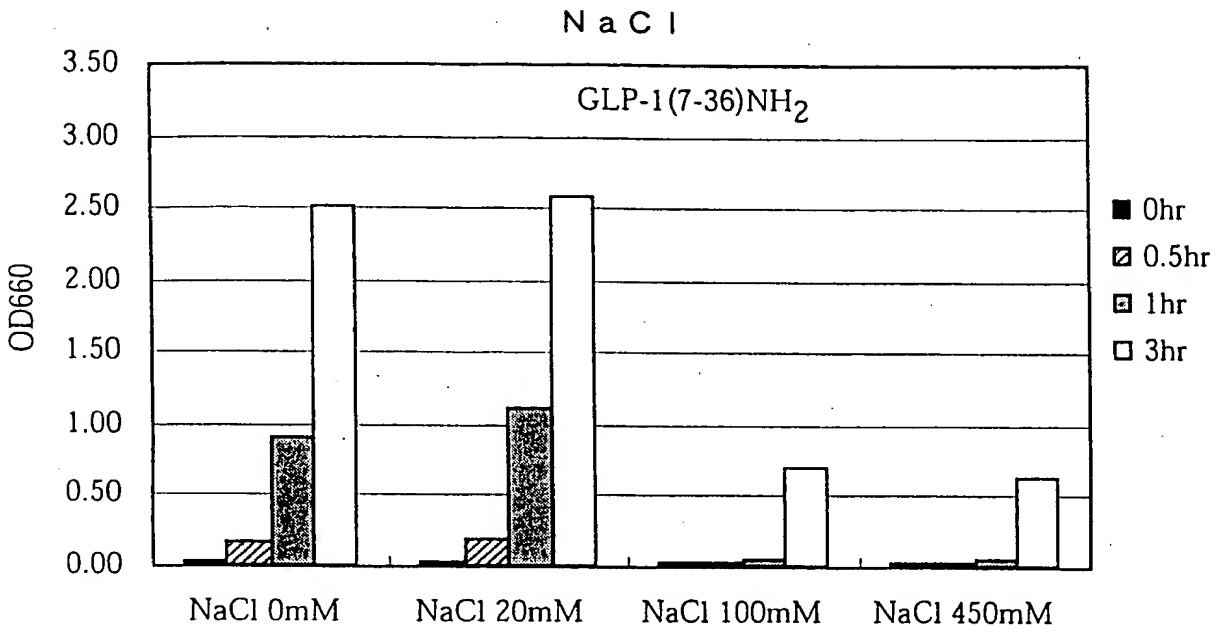

Tween 80
GLP-1(7-36)NH2
OD660
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0hr
0.5hr
1hr
3hr
Tw80 0.0%
Tw80 0.03%
Tw80 0.1%
Tw80 0.3%
Tw80 1.0%

Fig.24

A



B